

IN THE CLAIMS

Please amend the claims as follows:

1-21. (Cancelled)

22. (New) A cardiac rhythm management system comprising:

an external user interface, the user interface including:

a communication module, adapted for communicative coupling to an implantable device; and

an alphanumeric output indicator of pacing energy associated with an instance of pacing therapy delivery by the implantable device, wherein the indicator of pacing energy provides information about at least one of a voltage, a current, a pulsewidth, and an energy.

23. (New) The cardiac rhythm management system of claim 22, in which the external user interface further includes a display monitor displaying the indicator of pacing energy in association with an indication of the instance of pacing therapy delivered by the implantable device.

24. (New) The cardiac rhythm management system of claim 22, in which the external user interface further includes a strip chart printer recording the indicator of pacing energy in association with an indication of the instance of pacing therapy delivered by the implantable device.

25. (New) The cardiac rhythm management system of claim 22, in which the external user interface further includes a memory circuit storing the indicator of pacing energy in association with an indication of the instance of pacing therapy delivered by the implantable device.

26. (New) The system of claim 22, in which the external user interface further includes a therapy marker associated with an instance of therapy delivery by the implantable device.

27. (New) The system of claim 26, in which the external user interface further includes a representation of a cardiac signal acquired by the implantable device.

28. (New) The system of claim 27, in which at least one of the output indicator of energy and the therapy marker is associated with each instance of pacing therapy delivery by the implantable device.

29. (New) The system of claim 28, further including a printer adapted to print at least one of the output indicator of energy, the therapy marker, and the representation of the cardiac signal.

30. (New) The system of claim 29, further including an implantable cardiac rhythm management device adapted for communicative coupling to the user interface.

31. (New) The system of claim 30, further including a leadwire adapted for coupling the cardiac rhythm management device to a patient.

32. (New) The system of claim 27, further including a user interface screen adapted to display at least one of the output indicator of energy, the therapy marker, and the representation of the cardiac signal.

33. (New) A cardiac rhythm management system including:
an external user interface, the user interface including:
a communication module, adapted for communicative coupling to an implantable device; and
a printer adapted to provide a printout including an electrogram, markers of paced and sensed events, and a separate alphanumeric indicator of energy associated with each

of the paced markers, wherein the indicator of pacing energy provides information about at least one of a voltage, a current, a pulsewidth, and an energy.

34. (New) A cardiac rhythm management system including:
an external user interface, the user interface including:
a communication module, adapted for communicative coupling to an implantable device; and
a user interface screen adapted to display the markers of paced and sensed events and a separate alphanumeric indicator of pacing-level energy associated with each of the paced markers, wherein the indicator of pacing-level energy provides information about at least one of a voltage, a current, a pulsewidth, and an energy.
35. (New) A cardiac rhythm management system including:
an external user interface, the user interface including:
a communication module, adapted for communicative coupling to an implantable device; and
a storage medium adapted to store markers of paced and sensed events and a separate alphanumeric indicator of pacing-level energy associated with each of the paced markers, wherein the indicator of pacing-level energy provides information about at least one of a voltage, a current, a pulsewidth, and an energy.
36. (New) A method including:
delivering electrical pacing-level stimulation pulses to a patient; and
providing an alphanumeric indicator of pacing-level energy associated with each pulse.
37. (New) The method of claim 36, in which the providing the indicator of pacing-level energy associated with each pulse includes recording the indicator of pacing-level energy in association with an corresponding indication of one of the pacing-level stimulation pulses.

38. (New) The method of claim 37, in which the recording the indicator of pacing-level energy includes enscribing the indicator on a strip chart print out in visual association with the corresponding indication of one of the pacing-level stimulation pulses.

39. (New) The method of claim 38, in which the recording the indicator of pacing-level energy includes displaying the indicator on a display monitor in visual association with the corresponding indication of one of the pacing-level stimulation pulses.

40. (New) The method of claim 36, in which the providing the indicator of pacing-level energy associated with each pulse includes displaying the indicator of pacing-level energy in association with an corresponding indication of one of the pacing-level stimulation pulses.

41. (New) The method of claim 36, in which the recording includes printing a strip chart including an electrogram, markers of stimulated and sensed events, and an indicator of the pacing-level energy associated with each of the stimulated event markers.

42. (New) The method of claim 41, in which the indicator includes an amplitude.

43. (New) The method of claim 36, in which the providing the indicator of pacing-level energy associated with each pulse includes storing, on a storage medium, the electrogram, the markers of stimulated and sensed events, and the indicator of the energy of each of the stimulated event markers.

44. (New) A cardiac rhythm management system including:
an implantable cardiac rhythm management device;
at least one leadwire, coupling the implantable cardiac rhythm management device to a patient; and
an external user interface, adapted for communicative coupling to the cardiac rhythm management device, the user interface including:

a communication module, adapted for communicative coupling to an implantable device;

an output indicator of energy associated with an instance of therapy delivery by the implantable device;

a therapy marker associated with the same instance of therapy delivery by the implantable device;

a representation of a cardiac signal acquired by the implantable device;

wherein the output indicator of energy and the therapy marker are associated with the same instance of therapy delivery by the implantable device; and

at least one of a printer and a display, the at least one of the printer and the display adapted to provide the output indicator of energy in association with the representation of the cardiac signal in visual correspondence with a time of the same instance of therapy delivery by the implantable device.

45. (New) A cardiac rhythm management system including:

an external user interface, the user interface including:

a communication module, adapted for communicative coupling to an implantable device;

an alphanumeric output indicator of energy associated with an instance of pacing-level therapy delivery by the implantable device;

a representation of a cardiac signal acquired by the implantable device; and

at least one of a printer and a display adapted to provide the indicator of pacing-level energy in visual association with a representation of a time of delivery of the pacing-level energy.

46. (New) The system of claim 45, wherein the indicator of pacing-level energy provides information about a voltage amplitude.

47. (New) The system of claim 45, wherein the indicator of pacing-level energy provides information about a pulsewidth.

48. (New) A method including:
delivering electrical stimulation pulses to a patient; and
providing an indicator of pacing-level energy associated with each pulse, in which the providing includes providing an electrogram, markers of stimulated and sensed events, and an indicator of the energy associated with each of the stimulated event markers.

49. (New) The method of claim 48, in which the indicator is an alphanumeric indicator.

50. (New) The method of claim 49, in which the alphanumeric indicator indicates voltage.

51. (New) The method of claim 49, in which the alphanumeric indicator indicates pulsewidth.

52. (New) The method of claim 48, in which the providing includes printing a strip chart.

53. (New) The method of claim 48, in which the providing includes displaying on a monitor screen.

54. (New) The method of claim 48, in which the providing includes storing in a storage medium.

55. (New) A method including:
delivering electrical pacing stimulation pulses to a patient; and
displaying an alphanumeric indicator of pacing energy associated with each pulse.

56. (New) The method of claim 55, in which the display includes displaying an electrogram, markers of stimulated and sensed events, and an alphanumeric indicator of the energy associated with each of the stimulated event markers.

57. (New) The method of claim 55, in which the alphanumeric indicator indicates an amplitude.

58. (New) The method of claim 55, in which the alphanumeric indicator indicates a pulsewidth.

59. (New) A cardiac rhythm management system including:
an external user interface, the user interface including a communication module, adapted for communicative coupling to an implantable device;
a threshold testing module, adapted for triggering electrostimulation therapy delivery by the implantable device at energies that vary between one or more instances of therapy delivery by the implantable device; and
wherein the external user interface provides an output indicator of energy associated with an instance of therapy delivery by the implantable device.

60. (New) The system of claim 59, wherein the external user interface provides a therapy marker associated with an instance of therapy delivery by the implantable device.

61. (New) The system of claim 60, wherein the external user interface provides a representation of a cardiac signal acquired by the implantable device.

62. (New) The system of claim 61, in which at least one of the output indicator of energy and the therapy marker is associated with each instance of therapy delivery by the implantable device.

63. (New) The system of claim 62, wherein the external user interface provides at least one of a printer and a display, the at least one of the printer and the display providing at least one of the output indicator of energy, the therapy marker, and the representation of the cardiac signal.

64. (New) The system of claim 63, further including an implantable cardiac rhythm management device, adapted for communicative coupling to the user interface.

65. (New) The system of claim 59, in which the threshold testing module is adapted to automatically vary pacing energies during the threshold test.

66. (New) The system of claim 59, in which the threshold testing module is adapted to vary pacing energies during the threshold test in response to at least one user command.

67. (New) A cardiac rhythm management system including:
an external user interface, the user interface including a telemetry module, adapted for communicative coupling to an implantable device;
a threshold testing module, adapted for initiating pacing therapy delivery by the implantable device at energies that vary between one or more paces; and
at least one of a printer and a display screen, the at least one of the printer and the display screen providing a printout including an electrogram, markers of paced and sensed events, and a separate indicator of energy associated with each of the paced markers.

68. (New) A cardiac rhythm management system including:
an external user interface, the user interface including a communication module, adapted for communicative coupling to an implantable device;
a threshold testing module, adapted for initiating therapy delivery by the implantable device at energies that vary between one or more instances of therapy delivery by the implantable device;
a visual output indicator of energy associated with an instance of therapy delivery by the

implantable device; and

a visual therapy marker associated with the instance of therapy delivery by the implantable device.

69. (New) The system of claim 68, further including a visual representation of a cardiac signal acquired by the implantable device.

70. (New) The system of claim 69, in which at least one of the output indicator of energy and the therapy marker is associated with each instance of therapy delivery by the implantable device.

71. (New) The system of claim 70, further including a printer providing the output indicator of energy, the therapy marker, and the representation of the cardiac signal.

72. (New) The system of claim 71, further including an implantable cardiac rhythm management device, adapted for communicative coupling to the user interface.

73. (New) The system of claim 72, further including a leadwire adapted for coupling the cardiac rhythm management device to a patient.

74. (New) The system of claim 68, further including a screen display providing the output indicator of energy, the therapy marker, and the representation of the cardiac signal.

75. (New) A method including:

pacing a patient at varying energies; and
providing a separate visual output indicator of energy associated with each pace, including providing an electrogram, markers of paced and sensed events, and a separate indicator of the energy associated with each of the paced markers associated with pacing the patient at varying energies.

76. (New) The method of claim 75, in which the indicator includes a pace amplitude.
77. (New) The method of claim 75, in which the indicator includes a pace pulsewidth.
78. (New) The method of claim 75, further including displaying on a programmer screen the electrogram, the markers of paced and sensed events, and the separate indicator of the energy of each of the paced markers associated with pacing the patient at varying energies.
79. (New) A method including:
- pacing a patient at varying energies;
 - providing a separate visual output indicator of energy associated with each pace; and
 - automatically varying the pacing energies during the threshold test based on a predetermined algorithm.
80. (New) A method including:
- pacing a patient at varying energies;
 - providing a separate visual output indicator of energy associated with each pace; and
 - varying the pacing energies during the threshold test based on at least one user command.